


## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IHWD/P20451PC		FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB99/00522	International filing date (day/month/year) 19/02/1999	Priority date (day/month/year) 20/02/1998	
International Patent Classification (IPC) or national classification and IPC E05D11/10			
Applicant UPF (UK) LIMITED et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand  17/09/1999		Date of completion of this report  12.05.00	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer  Fuchs, A  Telephone No. +49 89 2399 2987	



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EXAMINATION REPORT**

International application No. PCT/GB99/00522

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-7 as originally filed

**Claims, No.:**

1-8 with telefax of 12/04/2000

**Drawings, sheets:**

1/2,2/2 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☒ the claims, Nos.: 9-11  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.  
☒ claims Nos. 8.

because:

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☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 8 are so unclear that no meaningful opinion could be formed (*specify*):

**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-7
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-7
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-7
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**VIII. Certain observations on the International application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

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**Re Item III****Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

No opinion can be established for claim 8, for the reasons given in point VIII.

**Re Item VIII****Certain observations on the international application**

Claim 8 does not meet the requirements of article 6 PCT, because its subject-matter of is unclear (rule 6.2 a).

**Re Item V****Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Following documents are cited in the present preliminary report :

- DE-U-29114386 (=D1)
- DE-A-3137134 (=D2)

**1. Claim 1**

1.1 The following features are known from the prior art and are disclosed in combination in D1 Fig. 1 :

a hinge assembly including a first hinge leaf 4 hingedly connected to a second hinge leaf 2 by a hinge pin 5, the hinge pin 5 being rotatably mounted in one hinge leaf 2 (page 11 lines 26-28) and non-rotatably mounted in the other hinge leaf 4 (page 11 line 28 - page 12 line 2), and a check mechanism (Türfeststeller) operably connected to the hinge pin 5 (page 13 lines 17-20) and said one hinge leaf 2 (page 12 lines 21-24) to releasably hold the first and second hinge leave at at least one angular position about the hinge axis (page 7 lines 10-16), the check mechanism including a check body 24 rotatably located within an annular cam track 20 (Fig. 29, the check body including check members 21 which are spaced from

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one another circumferentially about the hinge axis (Fig. 2), the check members 21 being resiliently biased in a radial outward direction relative to the hinge axis (page 8 lines 10-15) to engage and run along said cam track 20, the check members 21 being driven along said annular cam track 20 by relative rotation between said first 4 and second 2 hinge leafs, the cam track 20 including at desired locations (page 10 lines 20-26) there along one or more check formation 19 which cooperate with said check members 21 to releasably retain the first 4 and second 2 hinge leafs at a desired angular position relative to one another, the cam track 20 being formed on a reaction member 16.

The subject-matter of claim 1 differs from that of D1, considered to represent the closest prior art, by that the reaction member and the housing are two different elements, formed of different materials (respectively sintered metal and metal pressing), the reaction member being non-rotatably located in the housing. The subject-matter of claim 1 is therefore novel, in the sense of article 33 (2) PCT, as compared to D1.

- 1.2 The use of a separate element for the reaction member, composed of a different material, is disclosed in D2 (page 15 lines 9-13), and the advantages with regard to specific hardness, interchangeability,... are obvious. Although the characteristics of sintered metal are known to the skilled person (hardened surface and porosity which assists in the retention of lubricants), the use of sintered metal according to the present invention, i.e. the reaction member *being formed* by that metal, is nevertheless neither disclosed, nor suggested in the available prior art. The subject-matter of claim 1 would therefore involve an inventive step in the sense of article 33 (3) PCT, and claim 1 fulfill the requirements of article 33 (1) PCT.

2. Dependent claims 2 to 8

- 2.1 Claims 2 to 7 are dependent from claim 1 and would therefore also meet the requirements of the PCT.
- 2.2 For claim 8, see point VIII.

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**Re Item VII****Certain defects in the international application**

1. D1 should be cited and briefly disclosed in the description according to rule 5.1 a) PCT.
2. Independent claim 1 is not in the two-part form according to rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art D1 being placed in a preamble (rule 6.3(b)(i) PCT) and with the remaining features being included in a characterising part (rule 6.3(b)(ii) PCT).
3. According to the requirements of Rule 10.2 PCT, the terminology and the signs shall be consistent throughout the application. This requirement is not met in view of the use of the expressions "check members" and "check means" for the same feature (see claim 1).
4. The features of the claims are not provided with reference signs placed in parentheses (rule 6.2(b) PCT).

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## CLAIMS

1. A hinge assembly including a hinge assembly including a first hinge leaf hingedly connected to a second hinge leaf by a hinge pin, the hinge pin being rotatably mounted in one hinge leaf and non-rotatably mounted in the other hinge leaf, and a check mechanism operably connected to the hinge pin and said one hinge leaf to releasably hold the first and second hinge leaves at at least one angular position about the hinge axis, the check mechanism including a check body rotatably located within an annular cam track, the check body including two or more check members which are spaced from one another circumferentially about the hinge axis, the check members being resiliently biased in a radial outward direction relative to the hinge axis to engage and run along said cam track, the check means being driven along said annular cam track by relative rotation between said first and second hinge leaves, the cam track including at desired locations therealong one or more check formations which co-operate with said check means to releasably retain the first and second hinge leaves at a desired angular position relative to one another, the cam track being formed on a reaction member which is non-rotatably located in a housing fixedly secured to said one hinge leaf, the reaction member being in the form of an annulus formed from sintered metal, and the housing being formed as a metal pressing.

2. A hinge assembly according to Claim 1 wherein the housing has a bottom wall and an open top closed by an end cap, the check body being located inbetween the bottom wall and end cap and the hinge pin being rotatably supported in said bottom wall and end cap.



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3. A hinge assembly according to Claim 1 or 2 wherein the check formations are in the form of recesses spaced along the cam track into which the check members are received in order to releasably retain the hinge leafs at a desired angular position relative to one another.
4. A hinge assembly according to Claim 3 wherein the recesses are arranged in one or more groups corresponding to respective check positions, the recesses in each group corresponding in number and circumferential spacing to the number and circumferential spacing of the check members such that at a desired check position all check members are located in a corresponding recess of the group.
5. A hinge assembly according to any preceding claim wherein the check members are in the form of balls.
6. A hinge assembly according to Claim 5 wherein each ball is located in a radially extending bore formed in the check body in which is housed resilient means for biasing the ball radially outwardly.
7. A hinge assembly according to any preceding claim wherein said other hinge leaf is axially withdrawable from the hinge pin so as to define a lift-off hinge assembly.
8. A hinge assembly substantially as herein described with reference to and as illustrated in the accompanying drawings.

AMENDED SHEET

## PATENT COOPERATION TREATY

COMUS	PARTNER
- 3 SEP 1999	
NOTED	OFFICE
ACTIONED BY	

PCT

From the INTERNATIONAL BUREAU

To:

DEALTRY, Brian  
Eric Potter Clarkson  
Park View House  
58 The Ropewalk  
Nottingham NG1 5DD  
ROYAUME-UNI

**NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES**

(PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year) 26 August 1999 (26.08.99)		<b>IMPORTANT NOTICE</b>	
Applicant's or agent's file reference IHWD/P20451PC			
International application No. PCT/GB99/00522	International filing date (day/month/year) 19 February 1999 (19.02.99)	Priority date (day/month/year) 20 February 1998 (20.02.98)	
Applicant UPF (UK) LIMITED et al			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
EP,JP,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
None

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 26 August 1999 (26.08.99) under No. WO 99/42689

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer J. Zahra</p> <p>Telephone No. (41-22) 338.83.38</p>
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